DOT · APART

DOT APART NEST

Double-Sided Production Manual

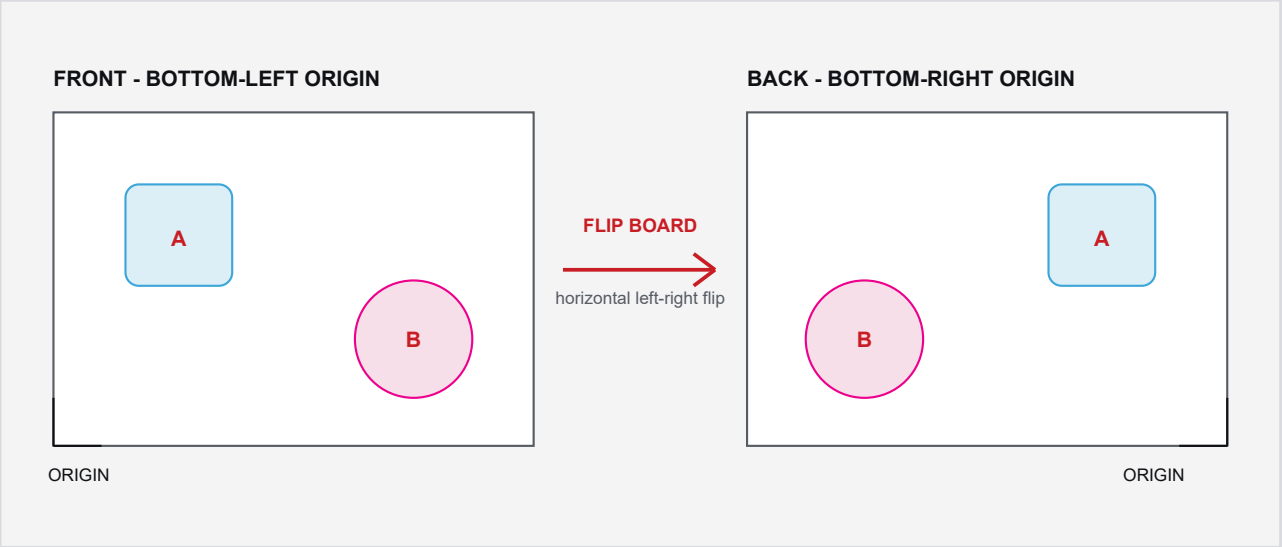
VERSION 2.2.10 · WINDOWS

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1 What double-sided nesting does

Dot Apart Nest treats every odd/even page pair as the two printed faces of one physical artwork. It calculates the FRONT arrangement once, then derives the BACK from the opposite horizontal board origin so that both sides remain aligned after the board is flipped left-to-right.



Core production rules

- FRONT uses the bottom-left board origin. BACK uses the bottom-right board origin.
- The artwork position and rotation are mirrored horizontally. The relationship between each front and its corresponding back never changes.
- If the requested quantity does not fit, Dot Apart Nest creates another complete numbered FRONT/BACK sheet pair.
- The configured full board size is retained for duplex output. Duplex sheets are not trimmed to the used nest bounds.
- Registration marks follow the physical board geometry. The Dot Apart orientation marker and sheet filename remain in their selected corners on both sides and are not mirrored.

Physical assumption: the operator turns the board over horizontally, left-to-right. Do not rotate the board 90 degrees or flip it top-to-bottom unless the downstream workflow deliberately compensates for that change.

2 Source PDF structure

Double-sided jobs must be supplied as even-page PDFs. Pages are paired in strict reading order.



Pages	Meaning	Imported item
1 + 2	Page 1 is FRONT; page 2 is its BACK.	One paired artwork item
3 + 4	Page 3 is FRONT; page 4 is its BACK.	One paired artwork item
5 + 6	The pattern continues for the complete PDF.	One paired artwork item

Required page conditions

- The PDF must contain an even number of pages.
- Both pages in a pair must have the same page width and height. Up to 0.5 mm of harmless PDF page-box rounding is tolerated.
- For AutoBleed, each page is treated as a rectangular artwork page. The back page must represent the intended opposite face.
- For Cut Path, both pages need the same set of recognized named cutting and creasing paths. Their shapes and relative layout must be horizontally mirrored within 0.5 mm.
- Front and back artwork may sit at different absolute positions on their PDF artboards. Validation compares contour-local geometry rather than requiring identical artboard coordinates.

> Do not insert cover sheets, blank separators or job tickets between a front and its back. Any inserted page changes every following pair.

3 Choosing AutoBleed or Cut Path

The double-sided workflow currently supports AutoBleed and Cut Path imports. Hand Cut crop-mark production is single-sided.

Method	Use it when	Duplex validation
AutoBleed	Artwork is rectangular and the page boundary is the finished shape. Mirrored bleed is generated from each page edge.	Page count and paired page dimensions
Cut Path	Artwork has named contour geometry, shaped cutting, holes, creases or multiple paths that must stay together.	Page count, dimensions, path names, path count and mirrored geometry
Hand Cut	Manual crop-mark jobs without a cutter.	Not available for double-sided nesting

Cut Path preparation

- Add every cutting and creasing spot-colour name to the selected production preset before importing.
- Use the same spot names on both pages. For example, CutContour must match CutContour and Crease must match Crease.
- All valid named paths are retained in the CUT preview and output, including open crease paths and inner cut paths.
- The back-page path position on the artboard may differ. The actual mirrored shape and relative path layout are what matter.

AutoBleed preparation

- Keep the finished rectangle aligned with each page boundary.
- Use the same finished page size for FRONT and BACK.
- Choose a bleed large enough for finishing tolerance, but validate mirrored edge content on both sides.

4 Build the production preset

Open Production preset > Edit and create a dedicated duplex preset. The Sides selection is stored with the preset.

Preset field	Recommended setup	Effect
Production type	Cutter with registration / cut file	Enables registration and CUT output
Sides	Double-sided - horizontal board flip	Activates odd/even page pairing and mirrored BACK output
Horizontal / vertical gap	Set for the media and finishing process	Controls spacing between protected artwork or trim boxes
Registration system	Match the actual cutter workflow	Places the selected marks on both output sides
Material edge margin	Allow for printer, cutter and board handling	Defines the mark/page clearance
Marks to cut paths	Set from visible bleed, not only the finished cut	Keeps print bleed away from registration marks
Orientation marker side	Bottom left or bottom right	Printed in that same corner on FRONT and BACK
Filename label corner	Choose a different corner from the marker	Printed in that same corner on FRONT and BACK
Cut Path spot names	Include cutting and crease aliases	Controls recognized and exported production paths

The filename corner and orientation-marker corner must be different. Dot Apart Nest blocks a preset that would intentionally place both annotations in the same corner.

5 Import paired artwork

Select the duplex production preset before adding artwork. Add artwork or drag an even-page PDF onto the artwork panel; the import dialog applies one method, quantity, bleed and rotation policy to that batch.

Import sequence

Step	Action	Result
1	Choose the duplex production preset	This supplies Sides, registration, spacing and spot-colour names.
2	Select one or more even-page PDFs	Each odd/even pair becomes one row in the artwork list.
3	Choose AutoBleed or Cut Path	Use the method prepared on both pages of every pair.
4	Set copies	Quantity means physical double-sided finished pieces, not PDF pages.
5	Choose rotation	Quarter-turn is the standard fast policy; fixed or free rotation remain available.
6	Add selected files	Wait for the processing indicator to finish before calculating.

Import checks

- A page-count error means at least one PDF has an unpaired final page.
- A size error reports the exact page pair whose dimensions differ by more than the 0.5 mm tolerance.
- A Cut Path mirror error means names, counts or geometry do not match after horizontal reflection. Absolute artboard position alone is not an error.
- A warning icon on an imported Cut Path item means no configured named path was recognized. Correct the preset and re-import before production.

6 Rotation and quantity

One FRONT placement owns its corresponding BACK placement. You do not rotate or place the back independently.

Rotation policy	Allowed FRONT angles	BACK behavior
Quarter-turn	0, 90, 180 and 270 degrees	Automatically mirrored from the chosen FRONT angle
Fixed rotation	The manually selected 0, 90, 180 or 270 degree angle	Automatically mirrored and held to the paired orientation
Free rotation	Five-degree increments	Automatically mirrored from the final FRONT angle

Quantity handling

- A quantity of 20 requests 20 physical paired pieces: 20 FRONT placements and 20 derived BACK placements.
- The solver may use multiple rows, permitted rotations and multiple physical sheet pairs.
- Every requested included copy is validated after calculation. A partial nest is rejected instead of silently omitting copies.
- If one source item is split between active and held sheet pairs, the artwork list creates linked active and held rows with the corresponding quantities.

> For speed and predictable feeding, use quarter-turn rotation unless the job genuinely needs five-degree free rotation.

7 Calculate the nest and handle overflow

Press Calculate nest. The button changes to Stop Calculating while the engine is active. The nesting engine calculates physical FRONT placements; each completed physical sheet then expands into a matching FRONT/BACK preview and export pair.

Overflow behavior

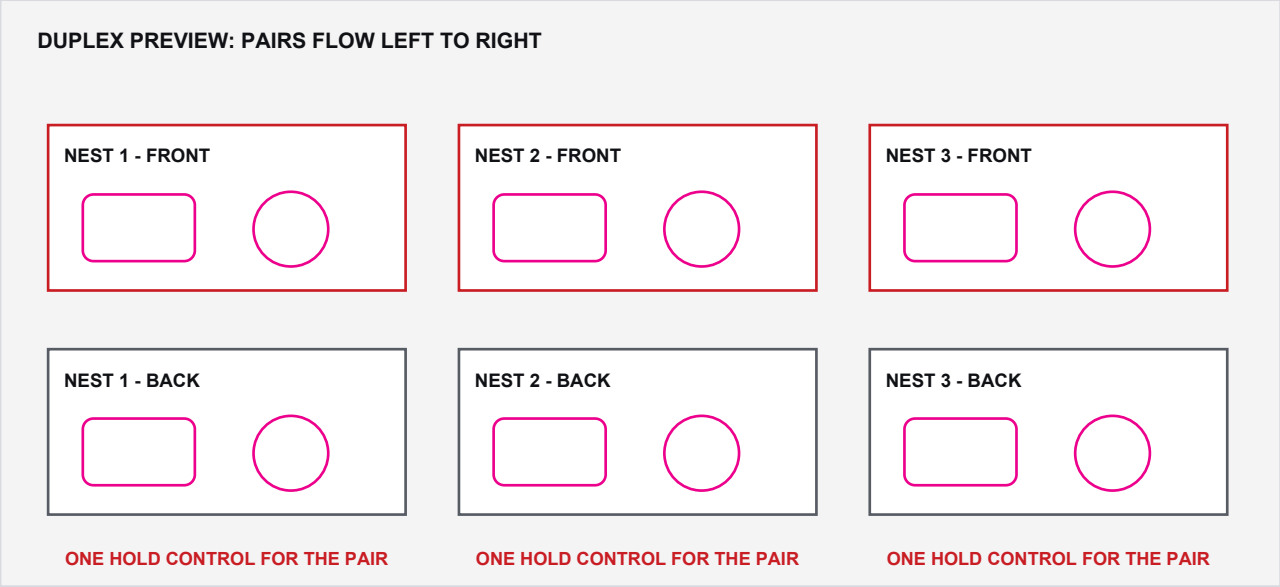
Situation	Behavior
All copies fit one board	Nest 1 FRONT and Nest 1 BACK are created.
Copies exceed one board	Nest 2 FRONT/BACK, Nest 3 FRONT/BACK and further complete pairs are created as required.
One artwork needs several rows	The solver continues vertically within the same physical board before opening a new pair when a legal placement exists.
A requested copy cannot be placed	The calculation stops with a readable incomplete-nest error; export is not allowed.

Sheet numbering

- Nest numbers identify physical boards, not individual PDF sides.
- FRONT and BACK of the same physical board always share the same nest number.
- Holding Nest 3 does not renumber Nest 4. Stable numbering is retained for production traceability.

> Double-sided output always uses the full configured board width and length. This is required so FRONT and BACK share an identical physical coordinate system.

8 Read and navigate the duplex preview



Layout rules

- Each physical pair is one vertical preview column: FRONT above BACK.
- Separate pairs flow horizontally from left to right.
- The title identifies Nest number, side and full output dimensions.
- Print + Cut, Print preview and Cut preview let you isolate the content required for inspection.

Navigation

Action	Result
Mouse wheel	Scroll vertically
Ctrl + mouse wheel	Zoom around the preview
Hold Space + drag	Exclusive panning mode
Fit	Return every visible pair to the preview panel
Hover an artwork	Highlight the corresponding artwork-list item
Click an artwork	Select the corresponding artwork-list item

9 Hold a complete sheet pair

Duplex holding is pair-level only. The hold control appears once for the physical pair, on its FRONT header. BACK cannot be held independently.

What pair holding changes

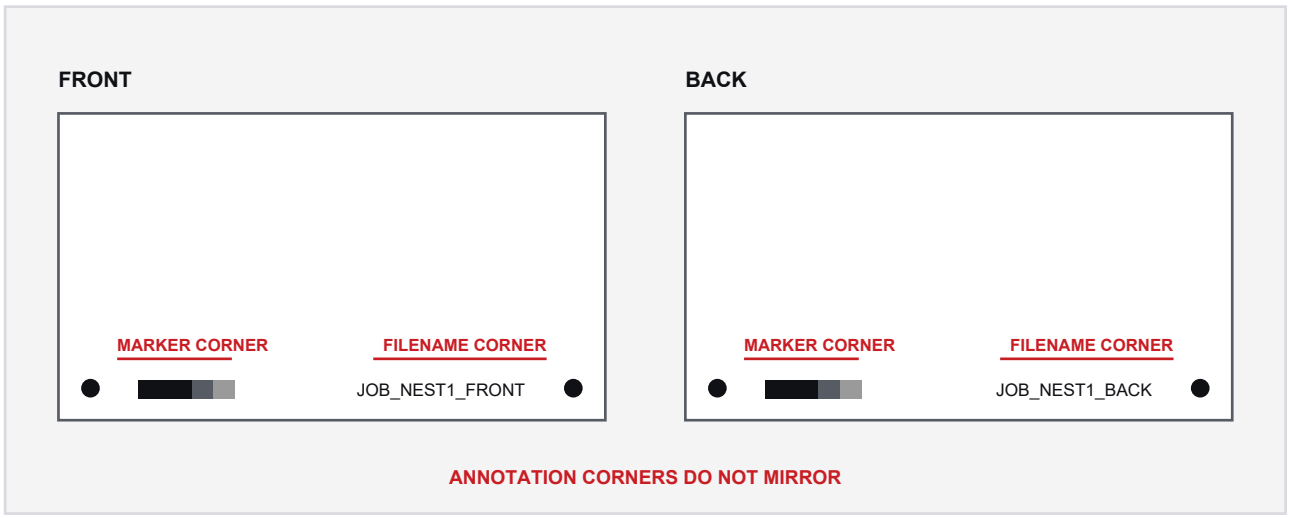
- Both FRONT and BACK are excluded from production output together.
- The pair remains visible in the saved .pfnest job and can be included again without changing its nest number.
- Every artwork copy placed on the pair becomes held in the artwork list.
- If a source item also appears on active pairs, Dot Apart Nest splits it into linked active and held rows with exact quantities.
- The Dot Apart Quote handoff includes active production quantities only.

Recommended uses

Use case	Procedure
Reprint later	Hold the complete pair, export the remaining pairs, then save the .pfnest job.
Board damaged after FRONT	Do not release only BACK. Hold or rerun the complete physical pair so both faces retain one production identity.
Split production shift	Hold later pairs and export the active group. Pair numbers remain stable for the next shift.

Never mix the FRONT of one nest number with the BACK of another. Treat each numbered pair as one inseparable physical board.

10 Registration and fixed annotations



What mirrors and what does not

Element	BACK behavior	Reason
Artwork	Horizontally mirrored placement	Aligns the reverse print after the board flip
Cut and crease geometry	Horizontally mirrored placement	Keeps finishing aligned with the physical board
Cutter registration marks	Follow the mirrored board geometry	Preserves the cutter coordinate system
Dot Apart orientation marker	Stays in the selected preset corner	Provides consistent manual identification
PRINT sheet filename	Stays in the selected preset corner	Keeps readable job identification and avoids marker collision

The orientation marker is 5 mm high and proportionally about 19.8 mm wide. It is placed from the chosen lower corner registration mark. The filename is printed only in the PRINT PDF and includes the nest number, side and full board size.

> Verify both annotations on the first exported FRONT and BACK PDFs. They must occupy the same selected sides on both PDFs, not mirrored sides.

11 Exported files and naming

JOB: SAMPLE

sample_nest1_FRONT_2000x1500mm.pdf	PRINT
sample_nest1_BACK_2000x1500mm.pdf	PRINT
sample_nest1_FRONT_CUT.pdf	CUT
sample_nest1_BACK_CUT.pdf	CUT
sample_nest2_FRONT_2000x1500mm.pdf	PRINT
sample_nest2_BACK_2000x1500mm.pdf	PRINT
sample_QUOTE.pfquote.json	QUOTE

One physical pair produces separate one-page files for each side. Output uses the current calculated layout and never recalculates during export.

Output	Contents
<job>_nestN_FRONT_<size>.pdf	FRONT print data, registration marks, Dot Apart marker and filename. No cut paths.
<job>_nestN_BACK_<size>.pdf	BACK print data in mirrored placement, with the same selected annotation corners. No cut paths.
<job>_nestN_FRONT_CUT.pdf	FRONT named cut/crease paths, registration marks and solid orientation-marker rectangle.
<job>_nestN_BACK_CUT.pdf	BACK mirrored cut/crease paths, registration marks and solid orientation-marker rectangle.
<job>_QUOTE.pfquote.json	Job-level handoff with source filenames, pages, finished sizes and active quantities.

The size token appears only in PRINT filenames. Duplex PRINT pages retain the complete configured board size, even when the nested artwork uses only part of it.

12 Production handoff and board handling

A reliable duplex result depends on preserving the same board edges and feed assumptions through printing, flipping and cutting.

Recommended production sequence

Step	Action	Operator check
1	Export and inspect	Open every FRONT/BACK PRINT and CUT file. Verify page size, nest number, side, marks, spot colours and annotations.
2	Print FRONT	Use the configured full board size and record the feed edge and selected orientation-marker side.
3	Flip horizontally	Turn the physical board left-to-right. Keep the same leading/trailing edge relationship required by the press workflow.
4	Print BACK	Use the matching BACK file with the same nest number. Do not apply an additional RIP mirror unless the tested press workflow requires it.
5	Cut	Load the matching CUT file(s), select the same registration profile and verify FRONT/BACK orientation before tool start.
6	Record result	Retain the .pfnest job and note any press-specific feed or flip instruction for repeat production.

RIP caution

- Disable automatic fit, center, rotate or mirror functions unless they are part of a validated device-specific workflow.
- Confirm that both side PDFs are interpreted at exactly the same physical page size.
- Do not crop one side independently. The full board coordinate system is intentional.
- Use the printed filename and orientation marker to prevent FRONT/BACK or nest-number swaps.

13 Preflight and first-article verification

Run a representative first article whenever the press, RIP, cutter, board size, registration preset or artwork preparation method changes.

Checkpoint	Verify on FRONT	Verify on BACK
Page	Full configured board size	Exactly the same width and length
Artwork	Expected position and rotation	Correct horizontal reverse relationship
Registration	Correct type, size and interval	Corresponding mirrored board geometry
Orientation marker	Configured lower corner	Same configured lower corner, not reflected
Filename	Correct nest number and FRONT	Same nest number and BACK in the selected corner
Cut paths	All named paths and creases	Matching mirrored named paths and creases
Colour	Expected ICC, spot and transparency behavior	Expected ICC, spot and transparency behavior
Physical result	Finished front aligns to cut	Back aligns after tested horizontal flip

Release checklist

- Every requested quantity is present across the numbered active pairs.
- Held pairs are intentionally excluded and their numbers are documented.
- Each FRONT file is matched with the BACK file carrying the same nest number.
- The filename and Dot Apart marker are separated on both sides.
- The RIP has not introduced extra scaling, centering, rotation, mirroring or cropping.
- The cutter software recognizes every required cut and crease spot name.
- One physical first article has been printed on both sides and cut successfully.

14 Troubleshooting

Symptom	Likely cause	Action
Odd page-count error	A PDF ends without its paired BACK page.	Add the missing back or remove the unmatched page, then re-import.
Paired sizes differ	MediaBox/CropBox dimensions differ by more than 0.5 mm.	Export both pages at the same exact page size.
Mirrored Cut Path error	Names, path counts or mirrored local geometry differ.	Compare all configured cutting and crease paths; artboard position itself may differ.
Only one row or too few copies	Old calculation or unsupported placement state.	Recalculate in the current version; requested copies now continue through rows and additional pairs.
FRONT/BACK preview order is confusing	The pair layout is being read as individual sheets.	Read each vertical column as one physical pair: FRONT above BACK; pairs continue left-to-right.
Marker covers filename on BACK	An older version mirrored the marker annotation.	Update to 2.1.14 or later and export again. Both annotations must retain their selected corners.
Back print is reversed incorrectly	The board or RIP was mirrored/rotated a second time.	Return RIP transforms to the validated baseline and use a horizontal physical board flip.
Cut does not align	Wrong side file, nest number, page scaling or registration profile.	Match nest numbers, confirm 100% scale and select the preset's exact cutter mark type.
Export seems frozen	Large composed PDF verification is still running.	Watch the export progress control and wait for completion; avoid starting a second export.

Support contact: support@dotapart.com. Include the Dot Apart Nest version, production preset name, input PDF, affected nest number and both exported side files when reporting a duplex alignment issue.